

# MAINE FARMER

AGRICULTURE MECHANIC ARTS GENERAL INTELLIGENCE

VOL. XV

AUGUSTA, THURSDAY MORNING, JULY 1, 1847.

NO. 26.



Our Home, our Country, and our Brother Man.

## THE SEASON FOR BUDDING.

The season for budding, or, as some call it, inoculating, is at hand, and we wish every young lad, or young man either, and we don't care if the young women, too, would learn the art, for it is a very useful art, and one much used in the propagation of fruit trees, roses, shrubs, &c., &c. The time for doing this is when the bark slips easily and can be separated readily from the wood. It could be more readily described and understood if we had an engraving to illustrate the mode.

We will extract the following from Kemrick's work on orcharding, at the same time advising those who may live in the vicinity of some one who understands the art, to get him to show them how it is done, which he can do in a few minutes. Inoculating, says Kemrick, is the operation of transferring any particular and desirable variety of tree upon the stock of an inferior or wild variety. The operation is principally practiced on small trees, and only during the time the sap flows freely, and chiefly during the month of August and September. (We have generally found it advisable to begin before this. Different years have different periods; that is, the periods may come earlier or later; many kinds do best if budded in July. En.) Select for the buds the ripest young twigs of the present year, and cut off the leaves, leaving the footstalk entire. Having selected a smooth place in the stock, make a perpendicular slit downward, quite through the bark, an inch or a little more in length. Make a cross cut at the top of this slit, quite through the wood, a little slanting downward; next, with the ivory haft of the budding knife (a smooth, flat, thin piece of hardwood will answer if you have no knife made on purpose. En.) raise the bark on both sides from top to bottom, being very careful not to injure in the least the cambium or sapwood. Next, and with expedition proceed to take off a bud; this is effected by entering the knife a little more than half an inch below the bud or eye, quite through the bark, and separating the bark from the wood to the same distance above the eye, always leaving a very thin slip of wood of about one-third of the length of the bud; this thin slip of wood occupies the middle section of its length. The bud is to be inserted in the stock to the bottom of the slit and between the bark and wood; and the top of the bud being squared even with the cross cut, every part, except the eye, is firmly bound and covered with strong, wet bass string or matting.

It is immaterial whether the cross cut is made at the top or bottom of the slit. It generally succeeds equally in both cases. Europeans generally take out the whole of the wood, and when the season is advanced and the sap flows freely, it is deemed the surest mode, always leaving the root of the bud. The string or bass matting is to be taken off as soon as it begins to girdle the tree, which is generally in about ten days. In the following spring, if the bud is alive, the stock may be cut off about a quarter of an inch above the bud, sloping downwards on the opposite side.

## CONVERTING PEAT TO COW DUNG.

Dr. Dana, it is well known, discovered that peat may be changed to the same ingredients as cow dung. The latter is nothing but vegetable matter pulverized by the cattle's teeth, and containing certain salts with which it is combined in its passage through the animal. Peat is also vegetable matter, containing certain acids and other ingredients which prevent its decomposition or rotting. By neutralizing these it becomes similar in its composition to cow dung.

To effect this, he advises to mix 30 lbs. of potash or 20 lbs. of soda ash, or what is more economical and equally as good, eight bushels of unleached wood ashes to every cord of peat as it is dug. Leached ashes will also answer, but they must be added in proportion of one part to three of peat.

Four cords of peat, he observes, contain as much fertilizing matter as the manure of a cow during the year. Mr. Pinney ascertained, by his experiments, that when one part of green animal manure is added to two of peat, it makes the whole equal to unleached cow manure, thus increasing it two-thirds.

All peats and mucks, as we before observed, contain something while in their beds that prevent its rotting; take this away and it readily decomposes and becomes capable of being dissolved and entering into the sap of plants to nourish them. This is usually some acid or astringent matter, or both. The alkalies, such as soda or potash, neutralize it and render it decomposable.

Size and Longevity of Vines. In North-allerton, a single vine trailed against a range of buildings, covered, in 1792, the enormous extent of one hundred and thirty-eight square yards. It was then upwards of one hundred years old, and the principal stem measured fifteen inches in diameter. The vine frequently attained a great age. Pliny mentions one which was ascertained to be six hundred years old. Miller asserts that, notwithstanding the common vine bears liberally at three or four years, vineyards properly pruned and cultivated, improve till fifty. In France and Italy there are vineyards, in full bearing, which are said to have been cultivated more than three centuries. Grape vines are often of prodigious dimensions. Strabo mentions one which two men could not embrace. As the wood of very ancient vines is extremely hard and compact, the larger ones are frequently manufactured into planks and used for furniture and household utensils, and is said to be almost indurible.

## APPLES IN EVEN AND ODD YEARS.

Our friend Cole, Editor of the Boston Cultivator, has a theory in regard to apples which he avers is correct. It is this:—There are more apples produced in what may be called even years, that is, in years that may be divided by 2 without a remainder, than there are in odd years, or years that cannot be divided by 2 without a remainder.

For instance, the seasons being equally favorable, more apples were produced in 1840, '42, '44 and '46, than there were in 1841, '43 and '45, and that this rule will hold good in future seasons, being equally favorable and taking all kinds together. Now we do not suppose that there is any peculiar magic in the fact of a year's being even or odd, as it regards the production of apples; but we all know that most varieties of apple trees bear most abundantly in one year and not so abundantly the next. This, we suppose, is not owing to the arbitrary date of the year, or to the peculiar relation of divisor and dividend, but to the fact of the fruit propagating powers of the tree being somewhat exhausted, and requiring one season of rest to recruit.

It may be a fact that the great majority of our trees, from some cause unknown, partake of this character, and while a smaller number bear equally well every year, and a small number have their bearing years and resting years opposite to the others. The only way to establish the fact of the coincidence of the majority of our orchards bearing most abundantly on even years, is to carefully note the amount of apples raised in a number of orchards, and also keep a journal of the weather and circumstances which may have an influence for or against the production of fruit. Having established the fact it will then be time to search out the cause.

Whether the cause be ascertained or not, if it be true that there are actually more apples produced in even years than in odd, it will be an object to increase the number of those trees that produce well in odd years. We know nothing of this matter from any accurate observations of our own, and merely mention the thing to excite observation and enquiry in regard to it for the purpose of eliciting the truth.

## PASTORAL SCRAP ABOUT RUTA BAGA.

In Young's Annals of Agriculture, 1789, we find mention made of the Ruta Baga, a letter to Mr. Young, from Robert Bogle, Esq., of Dallowie, near Glasgow, in Scotland. This valuable root was then just introduced from Sweden and almost wholly unknown. It has since, in conjunction with the flat turnip and celeriac, become the means of more than doubling the amount of stock kept in Great Britain.

An extract from the letter reads thus:—"In compliance with the promise I gave you, when I had the pleasure of meeting you last year in London, I now inclose a small parcel of the Ruta Baga seed. It may, perhaps, be known in England, but it is new to us in this country, having been imported from Sweden about two years ago, where, it is said, they cultivate it both for the table and for their cattle; and it is also said, it stands the severity of the frost, even in that climate.

This plant resembles the turnip very much, both in the shape of its root, and in the manner in which it produces its seed; but it differs materially in other respects, for the leaves are not of the same shape and growth more upright than the turnip; the root is of a more firm and solid texture, and the skin or rind is much thicker; it has a very agreeable taste, something like the artichoke, and it is not so watery, either raw or boiled, as the turnip.

I had only three plants of it in my garden. I pulled one of them from a desire to taste it, and the company at table gave it the preference; they also thought the leaves of it equal to spinach. This plant weighed five pounds six ounces; the others, which remained for seed, grew to a larger size, and as nearly as I could judge, had they been weighed, they would have reached at least twelve pounds each.

The seeds I now send you are perfectly fresh and good. I am sorry that I cannot spare you a larger quantity. I have but little of it, and have promised to supply a number of my friends with a few grains each. I have a peculiar pleasure in transmitting those seeds to you, being fully persuaded that if you find it a new plant in this island, possessing real, intrinsic qualities, you will cultivate it with attention; and you will, also, disseminate the knowledge of it far and wide."

Mr. Young was very thankful for the seed and promised to have experiments tried with it. Three years afterwards he published an account of experiments instituted, in regard to the culture of this root, by John Anstruther, who came to the following conclusion:—"On the whole, I am already of opinion that the roots Baga is most valuable root, whether it is used either by taking up a quantity previous to a snow storm, or of pulling up in the spring and laid by to be used after our common turnips are gone."

Fruit Conventions. We see that the friends of good fruit are about following the plan that has been adopted with us, in calling conventions of fruit growers. S. W. Jewett, of Vermont, is urging the necessity of a convention and formation of a society in Vermont, and F. B. Elliot is raising the lovers of good fruit up to the same thing in Ohio.

Go ahead, gentlemen. If you can get a general turn out of people, bringing with them good native fruit, such as apples, you will be astonished at the variety of really good apples that are raised around you. The only method to search them out and test their qualities, is to combine together in an association, and bring specimens together for comparison and examination.

To DESTROY INSECTS ON TREES, SHRUBS, &c.—Tie up some flour of sulphur in a piece of gauze, and dust the plants with it.

## JERUSALEM ARTICHOKE.

This is a valuable root, and should the potato plague continue to huddle the efforts of cultivators, it will, undoubtedly, be had recourse to, in order to supply, in some measure, its place. When it was first introduced into this country, it was generally designated by the appellation of "CANADA POTATO," and we recollect having heard it so called, by old people, only a few years since. It was also known by the name of the "Virginian potato." It has ever, we believe, been regarded as a wholesome root, and possesses a mild and agreeable flavor, though it is not, when cooked, dry and mealy like the potato. It is, however, very nutritious, and is eagerly partaken of by stock, especially in winter, when roots of all kinds are particularly palatable to them from their superior succulence. The yield of the artichoke, per acre, is from ten to fifteen hundred bushels, on good soil, and we have heard of even greater crops, in one instance as high, we think, as two thousand.

In some sections of the country the artichoke is had recourse to for stocking hog pastures, and for this purpose is said to be highly valuable. We do not know that any one in this vicinity has, as yet, paid much attention to its cultivation; but from what we hear, we rather incline to the supposition that it will soon become a prominent production of great value, particularly as a feed for stock.

Should the present tendency of the potato, to deteriorate be further developed, we are sanguine that our only resource will be found in the artichoke. Our swine must be supported, and if we make corn and other grain the only feed, pork raising and fattening will be attended with almost ruinous expense. As we are desirous of ascertaining, accurately, the value of the artichoke, we have made arrangements to cultivate it on a small scale, the present season, and in this effort we hope we shall be followed by others. Can any one furnish us with a few bushels of the tubers? w.

## INDUCING FULLNESS IN PEAR TREES.

FELIX HOLMES:—There are many varieties of pears amongst us which are inclined to grow very erect, with lofty and luxuriant tops, but do not fruit until ten or fifteen years old unless their habits are changed by art. The free and vigorous circulation of the sap forms less instead of fruit buds, except when its progress is retarded by some artificial mode.

Various methods have been practiced to bring such trees into bearing while young. Heading down the top causes the tree to throw out lateral branches and fruit spurs, and generally produces the desired effect if performed in season. Some of the finest trees I ever saw were in the nursery of M. P. Wilder, Dorchester, President of Mass. Horticultural Society. He informed me that they were headed down one year previous to removing as standards—that they had a more vigorous constitution and came into bearing much earlier than when forced upward with slender trunks.

Root pruning is sometimes successfully practiced. The object is to cut off a part of the nourishment so as to check the growing energies of the tree, and fruit buds will form the next season; this should be performed in the fall or first of winter.

But when trees have attained the height of eight to fifteen feet, the most simple and effectual mode of rendering them productive is to bend the limbs down below a horizontal position, and tie them to the main stem or stakes driven into the ground; it should be performed in this month or early in next, and fruit buds will form for next season. We are satisfied, from experience, that it is well worth the trial. Our trees which have been thus trained have borne well, and now promise a much larger crop than others which have retained their upright form. S. N. TABER.

Fanshboro', 6th Mo., 1847.

PLASTER-ITS OPERATION. We have frequently heard it asserted by farmers, that plaster, after it has been applied for one or two years to crops, on the same soil, ceases, in some instances, to produce any beneficial effects. LIBER, in one of his able works, explains the cause of this as follows:—"When we increase the crop of grass in a meadow," says he, "by means of gypsum, we remove a greater quantity of potash with the hay; than can, under the circumstances, be restored; hence it happens that, after the lapse of several years, the crops of grass, on the meadows manured with gypsum, diminish, owing to the deficiency of potash. If, when we apply plaster or gypsum we should mix common house ashes with it, or apply it to the soil either before or after bestowing the former, we should find the action of the latter as energetic in the tenth or twentieth year as in the first. This has been demonstrated by experiment, and those who remain sceptical have only to test the validity of the theory to satisfy themselves of its verity. On soils of a clayey texture, we consider gypsum one of the best applications. We have tested its value in a variety of instances, and have no scruple in recommending it, especially as a 'manure' for lands in grain and grass."

SALT AND CHARCOAL FOR HOGS. Swine should be liberally supplied with charcoal, also with brimstone and salt. We do not wish it to be understood, however, that these articles should be kept constantly in their troughs, or introduced daily into their food; but the first is necessary to correct the bad tendency of certain kinds of aliment, and should be administered in quantities from a quart to two quarts, as often as once a week. Salt should be freely given. When not introduced as a seasoning in their "mash" or "swill," it should be placed in their troughs and kept constantly by them. Brimstone should be given in dough, say one roll per month, or half a roll every other week. w.

## MANUAL OF VETERINARY MEDICINE.

TRANSLATED, FOR THE MAINE FARMER, FROM THE FRENCH OF M. LEBLANC, BY J. L. ENCYCLOPEDIA DES SCIENCES ET DES ARTS. WITH NOTES BY THE EDITOR.

### Retention of Urine.

This disease, which is sufficiently explained by its name, is commonly caused by an inflammatory state of the bladder, which swells the neck and shuts the passage leading from it; or by the presence of gravel or stone in the bladder. In the first condition, an unnatural heat is perceived, on placing the hand on the region of the bladder, and in the second case, the urine is mixed with blood or pus, or contains more or less gravel; in either case the horse attempts frequently to pass urine, and often without success, or only passes the urine drop by drop—he becomes feverish—swells prodigiously, if the retention is complete or nearly so, and dies in a few days if not relieved. Bleeding and injections—Injections over the region of the kidneys, and frictions with oil upon the region of the bladder, are the principal means upon which we should rely.

One of the pills, No. 47, may be given at night and morning; and the mixture, No. 48, may be given to counteract the bad effect of stone or gravel in the bladder, when the means fail. Diuretic medicines, or those calculated to promote the secretion of urine, would, of course, do more harm than good, and should not be made use of.

## JONATHAN'S ACCOUNT OF THE CATTLE SHOW.

Did I ever to the Cattle Show go? What a day! and what a scene!—Cattle in pens—the pens in a row—And farmers great huge, there, a'waiting—Some blackies (some aren't as good as I know)—There's sheep of the Down—some Uncle Sam's—Some Natives—some "real Merino." There's a tug ton, or trial of strength, With having and going and scolding, Off start the gloves, cut through the green award, A turning the signal of furrows.

And then, sir, in a room that they've got, There's an "ocean of notions" display'd—There's blankets, and stockings, and what not—That the folks in their houses have made—There's bonnets, both of straw and of grass, And cloth tops of woolen and linen, And there's yarn, and there's thread, smooth as glass, That gals for themselves have been spinning.

There's hats, and there's shoes, and there's leather, And there's—well, I can't tell half now, I fear—Got a prize—gee! altogether! And I'd go to the show twice a year.

### COAL ASHES TO KEEP BUGS FROM VINES.

We find the following in the Boston Cultivator, from the pen of S. H. Shurtleff: As every thing that will save a shrub to the farmer is worth putting in practice, and as Franklin (or poor Richard) said a penny saved is as good as a penny earned, so if coal ashes will keep off bugs better than Plaster of Paris from squashes, cucumbers, and melons, it ought to be known and practiced.

Last week the striped bug came in showers on my vines, and in less than two hours my vines were covered with them. It appearing as if they would be devoured, I put on plaster, but it did not remove them. I then put on a quantity of coal ashes about a half a pint to a hill, if sifting it on, and in less than an hour, not a bug was to be seen. Then to try the comparative effects of plaster and ashes, I put some ashes on one hill and plaster on the next, and so on, alternately, and I found that in all cases the bugs left where the ashes were put on, while they remained where the plaster was used.

I found my melons all beset with the small black bug, that so often destroys melons and cucumbers. I directed my man to put ashes on them, and I was much pleased to find that the little insects immediately disappeared, and they have not returned since. I feel confident that the ashes of hard or soft coal will prove a sure remedy for keeping bugs from the vine; and as they are now considered almost worthless, I think that we shall find that no individual thing is made in vain.

As the use of ashes have served me so good a purpose, I thought it advisable to give my experience, that some others might try their efficacy. I also put them on turneps and radishes with equally good effect.

### INCREASE OF GRAFTED TREES.

We are happy to see so much improvement in our orchards as has taken place since last March. Probably there never were so many trees grafted in Maine during one season as in the present.

Our neighbor, M. B. Sears, who is a very successful operator in this business, informs us that he has set 24000 (twenty-four thousand) grafts this season. He is but one of the many who have been engaged in the good work.

### HOW CORN SHOULD BE WORKED.

The cultivator is the best instrument for tilling corn, and no farmer should be without it. It goes deep enough to eradicate weeds, but not so deep as to turn up the manure which ought to be applied to the corn crop. It should be passed through the corn three times in the season, for the first time as soon as the corn is far enough advanced for a row to be plainly distinguished. Those not having a cultivator can use a small plough the first time, turning the furrows from the hills. The second time, use a narrow narrow enough to pass between the rows, furnished with handles. The reason for using the plough but once, is to prevent the cutting off of the roots of the corn which by the time of the second working, have spread considerably. By any mode of culture, corn will pay well to be gone through three times. Leaving the ground clean for the succeeding crop is no small item. The hills, but well stirred. Apply ashes and plaster mixed, at the first hoeing.

Having said how corn should be cultivated, it may not be amiss to mention how it ought not to be. You ought not to defer the first hoeing until the corn is up, (or from its age ought to be,) knee high, and looks as yellow as though it had the fever and ague. There is neither sport nor profit in witnessing a struggle between your corn and the weeds, and you would be excusable if you did not stand by, and wait to see fair play; for corn is a tender plant, less hardy than its vagabond antagonists, and needs your help, which to rest content with one hoeing, leaving the pigeon-grass and pig-weed to ripen their seeds in your field. You ought not to rest satisfied with getting 15 bushels of shelled corn to the acre—no, nor 40. Make up your mind that one acre well manured, and well cultivated, will bring more clear profit than ten managed in a slovenly way. [Michigan Farmer.]

### AN IMPROVEMENT IN BREAD MAKING.

Persons who are so unfortunate as to be poorly provided with those agents of mastication, good teeth, will be glad to know that there is a method of baking bread which obviates the necessity of a hard crust. The crust commonly attached to the loaf is not only troublesome to some persons, but is often the cause of much waste. The way to be rid of it is as follows. When the loaves are moulded, and before they are set down to "rise," take a small quantity of clean lard, warm it, and rub it lightly over the loaves. The result will be a crust beautifully soft and tender throughout. This is not guess-work. [Prairie Farmer.]

## PREPARATION OF COFFEE.

Coffee, when properly prepared, is a delicious and nutritious beverage; but judging from that which we frequently meet with, the best modes are seldom practiced. In *Siltman's Journal*, we find a notice of a memoir on Coffee by the distinguished French chemist, M. PAYEN. The results brought out by his chemical researches agree exactly with facts previously known in regard to this article. A great error in the preparation of coffee, is that it is burned too much, by which the liquid, when it is brought to the table, is destitute of agreeable flavor, and has a bitter, unpleasant taste. The reason of this is shown.

"Coffee roasted only till it becomes slightly brown, preserves the maximum of weight and of aroma, but gives out less coloring matter. In this state, 100 parts are found to have lost 15, which 100 vols. have increased to 130. Roasted to a chestnut color, as is commonly done, the loss is 20 per cent., while the increase in volume is from 100 to 153. This swelling of the grain depends upon the property which the nitrogenous matter deposited within the tissue has of pulling up remarkably when heated."

"If the heat is continued until a dark brown color is produced, and the grain is covered with a sort of glaze, the loss is twenty-five per cent., while the original quantity of nitrogen, 2.45 per cent., is reduced to 1.77, being a loss of one-fourth."

The soluble matter was also found to be much greater in the coffee subjected only to a low degree of burning—the brown giving 16.15, the chestnut-colored 19.00, and the red 25.00 per cent. The difference in "the aroma," it is added, "being nearly the same, the lower degree of roasting will produce not only the best and most nutritious beverage, but one free from the harsh and bitter flavor caused by the action of too high heat upon the nitrogenous matter." [Albany Cult.]

### HEN AND CHICKENS.

A writer on this subject, and let no one say it is not an important subject—in the Rochester American, gives the result of his experience in economizing the time with hens; and we think it worthy of being communicated to our readers. All who are familiar with rearing chickens, know that there are very few hens that will allow newly hatched chickens to be committed to their care when their own are a few days old. This the writer attributes to the fact that the hen has become acquainted with her own chickens, from colour, marks, &c., and considers the new comers in the light of intruders, which she too frequently punishes with death. To obviate this, he puts the first hen that hatches into a coop, and keeps her there with her chickens till another hatch, when he substitutes the second hen for the first, leaving the charge of the former; and when another hatch, she is put in place of the second, with all three broods—if the aggregate number do not exceed thirty—which he says she will take care of affectionately and efficiently. [Ex.]

### THE DANDELION (Leontodon Taraxacum).

can be easily grown from the seed, which vegetates as readily as that of lettuce. Those who wish to grow this vegetable can prepare a bed for carrots or beets; gather the seed as it ripens—in June or July—and sow it at once. The plants need no protection unless the season should be very hot and dry, while they are young. They will attain a strong growth the first season, if started in June. [Prairie Farmer.]

### SWEET CORN FOR GREEN FODDER.

A friend of ours, who keeps a large stock of cows, and who makes much use of corn as a green fodder in the latter part of summer and autumn, when the pasturage fails, informs us, that, for this purpose, he uses the shelled or sweet corn, and finds a great advantage in it. He thinks it far more nutritious than any other kind. If that and the common kind are fed to cattle at the same time, they will not touch the common while any of the other remains; and if they are mixed together they will select the sweet corn and leave the other. He thinks it would be better to pay five dollars a bushel for the sweet corn for this purpose, than to sow any other kind if it could be had for nothing. Let the experiment be tried by other farmers. [N. E. Farmer.]

### DRAINING.

H. Colman, speaking of the evils of stagnant water in the soil beneath the surface says: "plants produced on a very wet soil, are unpalatable, unwholesome, and insubstantial. Animals fed upon them always lose condition, and the manure of animals so fed is almost worthless. I saw this strikingly illustrated in the magnificent park of the Duke of Bedford, at Woburn Abbey. Here there were many spots where the grass was luxuriant and abundant, on account their dampness, and which were entirely neglected both by the sheep and the deer; but wherever these places, once wet, had become thoroughly drained, they became the favorite resorts of these animals, and were fed as closely as possible."

### VAX IN ROOT GRAFTING.

Messrs. Editors: I see in the January number of the Farmer, under the signature of "J. B.," Bunkerhill, his plan of grafting. I will now give you my plan on that subject. I use no wax at all. I graft in the winter, by placing my grafts in a box covered in part by dry dirt, and take them out in the spring without the least injury. I can graft one thousand per day. I have known this plan practiced since I was a boy. It is losing time for no benefit to use wax, as they will grow as well without, and very little trouble in planting in the spring. [Prairie Farmer.]

### STRAW MANURE.

Farmers must learn to distinguish more than they have done between the qualities of manure, and think less comparatively of quantity. Manure from cattle barely kept alive on straw is not worth hauling half a mile. Oil-cake is much used in England as food for cattle, but would be a crust beautifully soft and tender throughout. This is not guess-work. [Prairie Farmer.]

## ELECTRIC CLOCK.

Among the inventions we have an electric clock—emanating from Scotland. The London Univers gives the annexed description: "The clock is enclosed in a neat oak case, about four and a half feet in height, and one foot four inches wide. Its face is of ample dimensions, very plain in appearance, and is furnished with second, minute, and hour hands, in all respects similar to those of the usual construction. The pendulum is the same length as that of the ordinary old fashioned eight day clocks. Here, however, analogy ceases. It is true, there are some wheels and pinions to move the hands, and afford accurate indications of the divisions and progress of time; but these are few in number, and do their work in a manner totally different from those in other kinds of clocks. The electric clock has neither weight nor spring, nor power of any other kind, within itself, to keep it in motion; and it therefore never requires winding up."

Where, then, does the electric clock derive its power of continuous motion? Wait a little—we will try to explain it. There are two very small copper wires fixed in the angle of the clock-case, which communicate with similar wires at the back of the pendulum bar, and are thence continued to a coil of the same kind of wire enclosed in a circular brass box, which box constitutes what is usually termed the bob of the pendulum. The box being hollow, in the direction of its axis, the cavity thus formed admits of the insertion of two sets of permanent magnets, whose similar poles are placed near to, but not in contact with, each other. These magnets are kept in their places by being enclosed in brass boxes secured to the sides of the clock case. The pendulum is so adjusted that it has, of course, perfect freedom of motion; whilst in its oscillations it passes alternately the poles of the magnets just mentioned.

Leaving the clock for a few minutes, we now observe two copper wires, the ends of which are in contact with those within the case. Continuing their course along the wall, these wires pass out of doors, descend below the surface of the earth, and, at a short distance from the house are connected, the one with five bushels of coke, and the other with five or six plates of zinc. These materials are buried in a hole in the earth, about four feet square, and five feet deep, the coke being placed at the bottom with a layer of earth above it, and then the zinc plates are laid thereon, and the whole covered up, thus forming a galvanic battery. Here consists the power which imparts motion to the clock; a current of electricity being induced by the coke and zinc, which, although of low intensity, is unlimited as to quantity, the source whence it is derived being the earth itself. The pendulum being set in motion and the current of electricity through the wires established, a beautiful arrangement of simple mechanism immediately comes into operation, by means of which the circuit is broken and renewed at each alternate oscillation. Thus by the skill of the inventor, the combined agencies of galvano-electricity, electro magnetism, and permanent magnetism, are made to produce a uniform and, so to speak, perpetual motion of the pendulum; and we obtain a time measure of such extraordinary accuracy that we believe it will bear comparison, in this respect, with the best constructed chronometer.

If it be desired to have other clocks in different parts of the house, that we have been describing requires only to be connected with them by a copper wire, and the circuit completed to the battery; and they will all be kept going by the motion of the pendulum, and record exactly the same time. So also the public clocks in a town, could, by similar means, be made to synchronize.

Such is the electric clock, invented by Mr. Alexander Bain, of Edinburgh—a gentleman deservedly known in the scientific world.

### ON THE CONSTRUCTION OF CHIMNEYS.

In constructing chimneys, the builder should bear in mind that the facility for the passage of air through a funnel depends entirely upon its form in its formation. The more square the funnel, the smoother its surface, the more perfect will be the draft. The greater length you add to a funnel by giving it abrupt turns or "breaks," (as they are sometimes called,) the less useful it is for the purpose for which it is designed. A funnel 8 inches square, made perfectly smooth and even in its inner surface, and perpendicular in its direction, will conduct a stronger draft than one twice the size which is irregular in its form, with a rough surface, and having abrupt turns. A separate funnel, for each room, should be carried all the way up the chimney; and if this is not done the area of each funnel should equal in measurement that of all the flues leading into it. A chimney in a conical form, with a gradual increase of area as it is carried up, will be much more regular in its draft at the apex than that of the ordinary construction, where the outlet of the funnel is smaller than the bottom or inlet. The most prominent difficulty in the formation of chimneys is occasioned by discrepancies in the formation of the funnel. [Pick's Fuel Almanac.]

### BUTTER.

To remove the milk with or without the use of water. That is the question. Premiums have been obtained, after both processes. The nicest potted table butter we have seen this winter was from Mrs. (we like to give the house-wife credit where we can)—was from Mrs. Hammond's dairy, near Elliott's Mills, Md. The milk was expressed altogether without the use of water. [Ex.]

### BEES.

Bees—Bees should not be kept on the south side of a wall or building, but on the north side. If kept on a southern exposure, they will be tempted to leave their hives before the general atmosphere is yet cold, and perish before they can return. [Prairie Farmer.]

### TO RAISE LOCUST TREES.

Plant the seed an inch deep, after having, early in the spring, poured boiling water over them to soak for twenty-four hours.







## Arts, Literature, General Intelligence, &amp;c. &amp;c.

**DR. WOOD'S SERRAVALLO'S AND WILD CHERRY BITTERS.**  
**THIS new and valuable extract of Serravallo's and Wild Cherry Bitters, for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.**

**For further particulars the reader is referred to pamphlet**  
 will be furnished by the agents, showing the estimation in which this valuable medicine is held by those who have used it.

**AGENTS FOR AUGUSTA: J. E. LADD; Withthrop, Stanley & Co., 100 Broadway, New York; J. E. LADD, Withthrop, Stanley & Co., 100 Broadway, New York; J. E. LADD, Withthrop, Stanley & Co., 100 Broadway, New York.**

**WILLOW CARRIAGES, Carriages, Chairs, Marbles and Carriage Seats, for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.**

**GENTLEMEN'S CLOTH, CLOTHING, AND FURNISHING ESTABLISHMENT.**  
**CALDWELL & CO.** are prepared to furnish Garments of all kinds, in the most elegant and fashionable style. We have one of the most experienced **CUTTERS** in the State, who will make up all the latest fashions in the most perfect manner. Our assortment of German, French, English and American, **COLORED, CRISTAL, CLOTHES, TWEEDS, DRESSINGS, TRIMMINGS, &c.**, are from the most celebrated manufacturers, and late imports of the **Woolen Fashions** in the most perfect manner. Our assortment of German, French, English and American, **COLORED, CRISTAL, CLOTHES, TWEEDS, DRESSINGS, TRIMMINGS, &c.**, are from the most celebrated manufacturers, and late imports of the **Woolen Fashions** in the most perfect manner.

**WE HAVE CUTTING CLOTHING in any quantity and of all kinds, constantly on hand, and will be sold lower than the lowest.**

**Our customers in want of any of the above articles will not do themselves justice unless they give us a call.**

**May 13, 1867. gwtw No. 1 Central Row.**

**TO GRAIN GROWERS.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**PRINTS.**  
**1000 COLORED LITHOGRAPHIC PRINTS for sale, at Pierce's Lithography and Engraving, 100 Broadway, New York.**

**Mattresses and Feather Beds.**  
**AMERICAN GREESE FEATHERS, MATTRESSES, &c.** for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.

**AMERICAN OIL—A large supply received by**  
**HARRIS & CO., 100 Broadway, New York.**

**15 JOURNEMEN SHOEMAKERS WANTED by**  
**Wm. E. RICHMOND, of Boston Factory, for work on tick pigged work.**

**HAD KNOWLTON,**  
**ON OAK STREET,**  
 has a large assortment of **FURNITURE, CHAIRS, AND LAMING GLASSES.** For sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.

**FLAGG'S LINE OF PACKETS.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**WILL run between AUGUSTA, HALLOWELL, and BOSTON, the present season, as follows:**  
**"ADVENT,"** for **H. B. HAYES, Master.**  
**"HARRIS ANN,"** for **H. B. HAYES, Master.**  
**"CHAR. HENRY,"** for **H. B. HAYES, Master.**

**Union Line.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**Hallowell & Boston DISPATCH LINE.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**HAVILAND & TUTTLE'S WATER WHEEL.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**COPARTHERSHIP NOTICE.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**Provisions, Groceries and Dry Goods.**  
 The subscribers hereby give notice that they continue to be the business of **Building Piles, Piers, Piers and Piers** of all kinds, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner. They have the most recent improvements, at their Shop in Withthrop Village, near the foot of the **Woolen Fashions**, in the most perfect manner.

**INSERED OIL, Spirits of Turpentine, Japan, Varnish and PAINTS of all kinds, for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.**

**Plumbe National Daguerrian Gallery**  
**And Photographer's Farnishing Depot.**

**WARD'S GOLD and silver medals, for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.**

**GENESE FLOUR** kept constantly on hand and for sale by all Druggists, for the purpose of removing all such diseases as take their origin from the impurities of the blood—it promotes a healthy action of the liver, strengthens the system, and cures all such ailments as result from the impurities of the blood. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system. It is all cases of Indigestion, Biliousness, Headache, Neuralgia, Rheumatism, Catarrhs, and all the diseases of the system.



